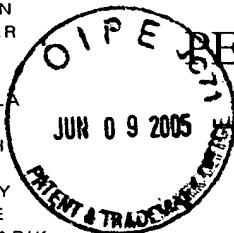


CHARLES B. GORDON
THOMAS P. SCHILLER
DAVID B. DEIOMA
JOSEPH J. CORSO
HOWARD G. SHIMOLA
JEFFREY J. SOPKO
JOHN P. MURTAUGH
JAMES M. MOORE
MICHAEL W. GARVEY
RICHARD A. SHARPE
RONALD M. KACHMARIK
PAUL A. SERBINOWSKI
BRIAN G. BEMBENICK
AARON A. FISHMAN



PEARNE & GORDON LLP

ATTORNEYS AT LAW

1801 EAST 9th STREET

SUITE 1200

CLEVELAND, OHIO 44114-3108

TEL: (216) 579-1700

FAX: (216) 579-6073

EMAIL: ip@pearnegordon.com

STEPHEN S. WENTSLE
ROBERT F. BODI
SUZANNE B. GAGNON
UNA L. LAURICIA
STEVEN J. SOLOMON
GREGORY D. FERNENGEL

OF COUNSEL

LOWELL L. HEINKE
THADDEUS A. ZALENSKI

PATENT, TRADEMARK,
COPYRIGHT AND RELATED
INTELLECTUAL PROPERTY LAW

10/771270 COPE

June 6, 2005

Mail Stop CERTIFICATE OF CORRECTIONS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Certificate

JUN 13 2005

of Correction

Re: U.S. Patent No. 6,889,677 B2
Issued May 10, 2005
Inventor Fujima et al
Our Docket: 36406

Sir/Madam:

A Certificate of Correction under 35 U.S.C. 254 is hereby requested to correct Patent Office printing errors in the above-identified patent. Enclosed herewith is a proposed Certificate of Correction (Form No. PTO/SB/44) for consideration.

It is requested that the Certificate of Correction be completed and mailed at an early date to the undersigned attorney of record. The proposed corrections are obvious ones and do not in any way change the sense of the application. To support these corrections, copies of pages 5 and 14 of the specification of the application, as filed, are enclosed.

We understand that a check is not required since the errors were on the part of the Patent and Trademark Office in printing the patent.

Very truly yours,

Thomas P. Schiller, Reg. No. 20677

TPS/pje

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

Thomas P. Schiller

Name of Attorney for Applicant(s)

6/06/05

Date

Signature of Attorney

JUN 13 2005

**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

PATENT NO. : 6,889,677 B2
DATED : May 10, 2005
INVENTOR(S) : Fujima et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 2, line 59, after "magneto" insert –generator having an exciter coil that generates one-and-a-half cycle of an AC–.

Col. 7, line 41, delete "02" and insert – 02 –.

MAILING ADDRESS OF SENDER: Thomas P. Schiller
Pearne & Gordon LLP
526 Superior Ave. East, Suite 1200
Cleveland, Ohio 44114-1484

PATENT NO. 6,889,677 B2

No. of additional copies 0

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

JUN 13 2005

where warning indication is required occurs, such as a state where an amount of lubricant oil remaining in the engine reaches below an allowable lower limit, a state where pressure of the lubricant oil reaches below an allowable lower limit, or a state where an amount of fuel remaining in the engine reaches below an allowable lower limit.

In the ignition device in FIG. 1, the resistance value of the resistor R1 is set so that a voltage equal to or higher than a value required for the light emitting diode LD to emit light occurs across the series circuit of the resistor R1 and the third feedback diode D3 while the exciter coil 2 is generating the negative half cycle of the output voltage.

The operation of the ignition device in FIG. 1 is as described below.

When the crankshaft of the internal combustion engine rotates, and the exciter coil 2 generates the positive half cycle of the output voltage V_p at a crank angle position θ_2 as shown in FIG. 3A, a current flows through a path of the exciter coil 2 - the ignition capacitor C_i - the primary coil 1a of the ignition coil - the first feedback diode D1 - the second feedback diode D2 - the exciter coil 2, and the ignition capacitor C_i is charged with the shown polarity. Thus, a voltage V_c across the ignition capacitor C_i increases as shown in FIG. 3B.

Then, when the exciter coil 2 generates the negative half cycle of the output voltage V_{n2} at a crank angle position θ_4 , a base current flows through the transistor TR1 to turn on the transistor TR1. At this time, a charging current flows from the exciter coil 2 to the trigger power supply capacitor C_t through the backflow inhibiting diode D6, the charging time constant adjusting resistor R2, the resistor R1, and the third feedback diode D3, and the trigger power supply capacitor C_t is charged at a certain charging time constant. The charges stored in the capacitor C_t are discharged at a certain discharging time constant through the resistor R3 and between the collector

crankshaft of the internal combustion engine is used to provide the trigger signal to the thyristor by the negative half cycle of the output voltage of the exciter coil, if the space between the magnetic poles of the magnet rotor is narrowed, and the crank angle position where the exciter coil generates the first negative half cycle of the output voltage is brought close to the crank angle position where the exciter coil generates the positive half cycle of the output voltage, the rotational speed of the engine is limited since the charging of the ignition capacitor is prevented during the high speed rotation of the engine.

10

SUMMARY OF THE INVENTION

Therefore, an object of the invention is to provide a capacitor discharge ignition device for an internal combustion engine in which a magneto generator having an exciter coil that generates one-and-a-half cycle of an AC

15 voltage constituted by a positive half cycle of an output voltage and first and second negative half cycles of output voltages generated before and after the positive half cycle of the output voltage, respectively, at least once during one rotation of a crankshaft of the internal combustion engine is used to provide a trigger signal to a thyristor by a negative half cycle of an output voltage of the exciter coil, wherein the thyristor is inhibited from conducting to prevent
20 charging of an ignition capacitor when the output voltage of the positive half cycle of the exciter coil rises during high speed rotation of the engine.

The capacitor discharge ignition device for an internal combustion engine according to the invention includes: a magneto generator having an
25 exciter coil that generates one-and-a-half cycle of an AC voltage constituted by a positive half cycle of an output voltage and first and second negative half cycles of output voltages generated before and after the positive half cycle of the output voltage, respectively, at least once during one rotation of a